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14. ABSTRACT Intelligence, surveillance, and reconnaissance (ISR) support to humanitarian relief operations within the United States has been a hot topic of discussion among the leadership of the military, federal government, and state governments since Hurricane Katrina. These organizations have deemed ISR support essential to conducting timely, effective, and responsive relief operations. However, ISR support to humanitarian relief operations within the United States suffers due to a lack of unity of command and a lack of unity of effort within NORTHCOM, its subordinate units, and its interagency partners. NORTHCOM must improve its operational ISR support by developing pre-existing ISR plans, establishing standing command relationships, improving information sharing through interoperable communications, creating a liaison officer plan, reviewing legal restrictions and modifying them if necessary, and developing and conducting more frequent and challenging exercises. These improvements will allow ISR support to be more effective during humanitarian relief operations within the United States.					
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Newport, R.I.**

**INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE SUPPORT TO  
HUMANITARIAN RELIEF OPERATIONS WITHIN THE UNITED  
STATES: WHERE EVERYONE IS IN CHARGE**

by

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**A paper submitted to the Faculty of the Naval War College in partial satisfaction of  
the requirements of the Department of Joint Military Operations.**

**The contents of this paper reflect my own personal views and are not necessarily  
endorsed by the Naval War College or the Department of the Navy.**

**Signature: \_\_\_\_\_**

**23 April 2008**

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## **Abstract**

### *Intelligence, Surveillance, and Reconnaissance Support to Humanitarian Relief Operations within the United States: Where Everyone is in Charge*

Intelligence, surveillance, and reconnaissance (ISR) support to humanitarian relief operations within the United States has been a hot topic of discussion among the leadership of the military, federal government, and state governments since Hurricane Katrina. These organizations have deemed ISR support essential to conducting timely, effective, and responsive relief operations. However, ISR support to humanitarian relief operations within the United States suffers due to a lack of unity of command and a lack of unity of effort within NORTHCOM, its subordinate units, and its interagency partners. NORTHCOM must improve its operational ISR support by developing pre-existing ISR plans, establishing standing command relationships, improving information sharing through interoperable communications, creating a liaison officer plan, reviewing legal restrictions and modifying them if necessary, and developing and conducting more frequent and challenging exercises. These improvements will allow ISR support to be more effective during humanitarian relief operations within the United States.

## INTRODUCTION

Intelligence, surveillance, and reconnaissance (ISR) support to humanitarian relief operations within the United States has been a hot topic of discussion among the leadership of the military, federal government, and state governments since Hurricane Katrina. These organizations have deemed ISR support essential to conducting timely, effective, and responsive relief operations. Admiral Keating, the commander of Northern Command (NORTHCOM) during Hurricane Katrina, said it best when he stated: “our ability to get eyes on target is critical . . . We’re going to take [ISR] on as a significant mission so we can get better situational awareness.”<sup>1</sup>

ISR support to humanitarian relief operations within the United States suffers due to a lack of unity of command and effort within NORTHCOM, its subordinate units, and its interagency partners. NORTHCOM must improve its operational ISR support by developing pre-existing ISR plans, establishing standing command relationships, improving information sharing through interoperable communications, creating a liaison officer plan, reviewing legal restrictions and modifying them if necessary, and developing and conducting more relevant, frequent, and challenging exercises. These improvements will provide the foundation for ISR support to be more effective during humanitarian relief operations within the United States.

The optimal way for ISR to achieve effective joint intelligence operations is through unity of command and unity of effort. Joint Publication (JP) 3-0, *Joint Operations*, defines unity of command as having all forces working towards a common objective operating under

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<sup>1</sup> David Bond, “Washington Outlook ... and Katrina’s lessons learned,” *Aviation Week & Space Technology* 163, issue 13, (3 October 2005): 23, <http://www.ebsco.com/> (accessed 24 February 2008).

one commander.<sup>2</sup> However, it also states that during interagency operations, because “unity of command may not be possible,” unity of effort is essential.<sup>3</sup> JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, defines unity of effort as “coordination and cooperation toward common objectives, even if the participants are not necessarily part of the same command or organization.”<sup>4</sup> JP 2-0, *Joint Intelligence*, further refines this term for operational intelligence, as “coordination through cooperation and common interests to achieve a desired end state ... [it] is essential to effective joint intelligence operations.”<sup>5</sup>

This paper will analyze the unity of command and unity of effort issues for two recent humanitarian relief operations within the United States where ISR played a vital role: Hurricane Katrina and the California wildfires of October 2007. First, this paper will evaluate the unity of command and unity of effort problems for Hurricane Katrina, develop hypotheses about what caused these problems, and delineate the effects these causes had on NORTHCOM’s ability to conduct effective ISR operations. Then this paper will evaluate NORTHCOM’s conduct of ISR operations during the recent California wildfires. This evaluation will determine if NORTHCOM remedied any of its unity of command or unity of effort issues evident during Hurricane Katrina. The paper will specify what changes NORTHCOM made and whether or not these changes helped reduce or eliminate the unity of command and unity of effort issues that affected NORTHCOM’s ability to conduct effective ISR operations in support of humanitarian relief. Finally, this paper will conclude with

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<sup>2</sup> Chairman, U.S. Joint Chiefs of Staff, *Joint Operations*, Joint Publication (JP) 3-0 (Washington, DC: CJCS, 17 September 2006), A-2.

<sup>3</sup> Ibid, A-2.

<sup>4</sup> Chairman, U.S. Joint Chiefs of Staff, *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication (JP) 1-02 (Washington, DC: CJCS, 12 April 2001, as amended through 17 October 2007), 568.

<sup>5</sup> Chairman, U.S. Joint Chiefs of Staff, *Joint Intelligence*, Joint Publication (JP) 2-0 (Washington, DC: CJCS, 22 June 2007), xiii.

lessons learned from both of these operations that one can apply universally to improve ISR support during future humanitarian relief operations within the United States.

## **HURRICANE KATRINA**

### **Lack of Unity of Command and Unity of Effort**

Hurricane Katrina was one of the worst natural disasters in the history of the United States. Likewise, “Katrina response was the largest, fastest civil support mission in the history of the United States.”<sup>6</sup> The intelligence community played a vital role in the humanitarian aid response by allocating 13 different airborne ISR assets to provide damage assessment and to help with relief and recovery efforts. These assets included the Air Force U-2 and OC-135 OPEN SKIES, the Air National Guard RC-26, C-130 SCATHE VIEW, and F-16 tactical airborne reconnaissance system (TARS), the Air Force Auxiliary (Civil Air Patrol) C-172, C-182, and GA-8, the U.S. Navy P-3 and F-14 tactical airborne reconnaissance pod system (TARPS), the Defense Intelligence Agency (DIA) DC-3, and the U.S. Customs P-3.<sup>7</sup> These platforms flew 361 ISR sorties, took 1128 images, and recorded 117 hours of full motion video.<sup>8</sup> Six unique exploitation nodes analyzed the imagery and videos and disseminated their products to 22 different customers throughout the affected area.<sup>9</sup> ISR support was truly a joint and interagency effort with representation from federal military, federal civilian, state, and local organizations.

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<sup>6</sup> Merrick Krause and Jeffrey Smotherman, “An Interview with Assistant Secretary of Defense for Homeland Defense, Paul McHale,” *Joint Forces Quarterly* 40 (1<sup>st</sup> quarter 2006): 13.

<sup>7</sup> Robert Young, “ISR Support to DSCA,” Powerpoint, 26 April 2006, Tyndall AFB, FL: AFNORTH.

<sup>8</sup> U.S. Air Force, *Air Force Support to Hurricane Katrina/Rita Relief Operations: By the Numbers* (Washington, DC: Headquarters U.S. Air Force, October 2005), 13-14.

<sup>9</sup> *Ibid*, 13-14.

Despite the extensive ISR support, the U.S. Senate Homeland Security and Governmental Affairs Committee is asking why the support was not as effective as possible.<sup>10</sup> The answer is because no one organization was in charge. ISR operations lacked unity of command and more importantly lacked unity of effort. “With the lead-agency role shifting over time, [it was] hard to know who does what to whom and when.”<sup>11</sup> NORTHCOM, Department of Homeland Security (DHS), Air Forces Northern (AFNORTH), Joint Task Force (JTF)-Katrina, and others, had control at one point or another over various aspects of the ISR operations supporting Hurricane Katrina relief operations. No one knew at any given time who was in charge. Standing Joint Force Headquarters-North stated that no one clearly defined the chain of command for J2 ISR collection. “It seemed that the involved organizations all had different ideas of who was responsible for what.”<sup>12</sup> As Senator Collins said in her opening statement during a hearing on the Defense Department’s role in Hurricane Katrina response: “the military was not immune from the conflicts, the confusion and the lack of coordination that occurred across all levels of government and that may have prevented the response from being as quick and effective as it should have been.”<sup>13</sup>

### **Causes for Lack of Unity of Command and Unity of Effort**

The next issue to examine is why ISR operations lacked unity of command and unity of effort. There are five primary reasons why ISR operations lacked both of these. First, neither NORTHCOM nor DHS established a clear chain of command. Neither organization

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<sup>10</sup> Senate Homeland Security and Governmental Affairs Committee, *U.S. Senate Homeland Security and Governmental Affairs Committee holds a hearing on the Defense Department’s role in the response to Hurricane Katrina*, 9 February 2006, <http://www.lexis-nexis.com/> (accessed 19 February 2008).

<sup>11</sup> James Kittfield, “Northern Command to the Rescue,” *National Journal*, 3 September 2005, 2675.

<sup>12</sup> U.S. Northern Command, “Intel Collection Procedures,” *Lessons Learned Database*, JULL #14363-47094 (4 November 2005), <https://lessons.noradnorthcom.mil> (accessed 28 February 2008).

<sup>13</sup> Senate Committee, *Defense Department’s role in the response to Hurricane Katrina*, 9 February 2006.



could answer the question of “who takes the lead, who works for whom.”<sup>14</sup> Also, active duty forces and National Guard Bureau (NGB) forces had separate parallel command structures.<sup>15</sup> So, not only was there a lack of a unified chain of command between the Department of Defense (DoD) and DHS, but also the DoD was unable unify within its own department.

NORTHCOM and DHS not only lacked a clear chain of command, but also lacked clear command guidance. This precluded ISR operations from having unity of command and unity of effort. Command guidance came from the state governors, NORTHCOM, the president of the United States, senators calling directly to AFNORTH, and others.<sup>16</sup> ISR guidance from these entities often conflicted as each had different collection priorities. Specifically, each state governor wanted his/her requirements to take priority while the federal government tried to push its requirements to support troop deployments. Still others had personal reasons for trying to influence ISR prioritization.<sup>17</sup> Neither NORTHCOM nor DHS was able to reconcile the differences; hence, the ISR operational planners at AFNORTH had to decide unilaterally where to collect based on their ability to optimize collection (taking the most pictures, with the fewest assets, in the shortest time). Despite the many unity of command and unity of effort problems, NORTHCOM and DHS could have overcome many of the chain of command and guidance problems if they had implemented good communications and information cross-flow. However, this was not the case.

The next reason why ISR operations lacked unity of command and unity of effort is that communication between entities was lacking. Admiral Keating, during his testimony on

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<sup>14</sup> Mark Haviland, “After Katrina: ACC’s Intel Team Applies Lessons Learned,” *U.S. Fed News Service* (31 August 2006), <http://proquest.com> (accessed 24 February 2008).

<sup>15</sup> U.S. Northern Command, “State Active Duty/T32 Coordination with T10 Forces,” *Lessons Learned Database*, JULL #14606-61385 (4 November 2005), <https://lessons.noradnorthcom.mil> (accessed 28 February 2008).

<sup>16</sup> Jennifer Sovada, personal experience as Chief of Intelligence, Surveillance, Reconnaissance collection for AFNORTH during Hurricane Katrina, 3 September 2005 – 5 October 2005.

<sup>17</sup> *Ibid.*

the DoD's response to Hurricane Katrina, stated that NORTHCOM "lacked complete visibility into the National Guard's efforts throughout disaster relief operations."<sup>18</sup> Often, the "active duty military and National Guard were two forces separated by a common mission."<sup>19</sup> Also, the federal civilian agencies and DoD had little visibility into each other's operations. A lack of an interoperable communications infrastructure complicated communication by hampering information sharing. Many organizations had different communications equipment, security protocols, and standards, not compatible with each other, hampering command and control.<sup>20</sup>

Lack of ISR preplanning for a natural disaster was a clear cause of unity of command and unity of effort dysfunction.<sup>21</sup> At the operational level, the ISR community did not have an ISR plan ready to rapidly provide damage assessments following a catastrophic natural disaster within the United States.<sup>22</sup> No consolidated tasking, collection, processing, exploitation, and dissemination (TCPED) process existed; hence, NORTHCOM and DHS planned their ISR operations on the fly.<sup>23</sup> Even as the disaster unfolded, NORTHCOM, the National Guard, Joint Staff, and DHS did not integrate their ad hoc ISR planning.<sup>24</sup>

Another challenge that hindered unity of command/unity of effort was NORTHCOM's concern over legal issues. The authority differences for conducting ISR collection within the United States between federally funded Title 10 military forces and

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<sup>18</sup> Senate Homeland Security and Governmental Affairs Committee, *Statement of Admiral Timothy J Keating Commander, United States Northern Command United States Navy*, 9 February 2006, <http://www.lexis-nexis.com/> (accessed 19 February 2008).

<sup>19</sup> Senate Committee, *Defense Department's role in the response to Hurricane Katrina*, 9 February 2006.

<sup>20</sup> Krause and Smotherman, "An Interview with Assistant Secretary of Defense for Homeland Defense, Paul McHale," 14.

<sup>21</sup> Ibid, 14.

<sup>22</sup> U.S. Air Force, *Air Force Support to Hurricane Katrina/Rita Relief Operations: Joint Lessons and Observations*, (Washington, DC: Headquarters U.S. Air Force, October 2005), 19.

<sup>23</sup> Richard Ayres, "480 IW Disaster Relief Capabilities," Powerpoint, April 2006, Langley AFB, VA: Air Combat Command.

<sup>24</sup> Senate Committee, *Defense Department's role in the response to Hurricane Katrina*, 9 February 2006.

state-funded Title 32 military forces led to numerous conflicts. Title 10 forces were concerned about violating *posse comitatus* and intelligence oversight laws.<sup>25</sup> United States Code 18, section 1385, known as the *Posse Comitatus Act*, prohibits members of the U.S. Army or Air Force from conducting any activities related to state law enforcement.<sup>26</sup> Executive Order 12333, *United States Intelligence Activities*, prohibits any federal agency from conducting intelligence collection on any U.S. citizen within the United States unless the Secretary of Defense and Attorney General approve the activities and these activities are coordinated with the FBI.<sup>27</sup> Due to these restrictions, during Hurricane Katrina, the NORTHCOM judge advocate general (JAG) mandated that they authorize all ISR collection and review collected imagery.<sup>28</sup> These restrictions limited the ability of Title 10 forces to act quickly, without hesitation, and resulted in decreased or delayed support for relief operations.

### **Implications for Lack of Unity of Command and Unity of Effort**

The above-mentioned causes created several problems with ISR operations including: duplication of effort and disjointed operations, situational awareness deficiencies, and an inability to properly share information in a timely manner due to incompatible imagery dissemination architectures. All of these problems affected unity of command/unity of effort and the overall effectiveness of ISR support.

Duplication of effort occurred throughout the ISR process, i.e., between Title 10 and Title 32 forces, between DoD organizations, and between state and federal agencies. Since

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<sup>25</sup> U.S. Northern Command, "Intel Oversight," *Lessons Learned Database*, JULL #14970-35148 (14 November 2005), <https://lessons.noradnorthcom.mil> (accessed 28 February 2008).

<sup>26</sup> *Posse Comitatus Act*, U.S. Code, title 18, sec 1385 (1878).

<sup>27</sup> U.S. President, Executive Order no. 12333, "United States Intelligence Activities," part 2 (4 December 1981 Comp.).

<sup>28</sup> U.S. Northern Command, "Use of Intelligence Assets/DoD Assets in Support of Disasters," *Lessons Learned Database*, JULL #14479-76919 (15 September 2005), <https://lessons.noradnorthcom.mil> (accessed 28 February 2008).

National Guard ISR plans were not integrated into active duty ISR plans, both often tasked different ISR assets to image the same areas, thus causing duplicative and non-complementary efforts.<sup>29</sup> Active duty entities also lacked coordination that resulted in further duplication of effort and disjointed operations. One DoD relationship where this often occurred often was between NORTHCOM and AFNORTH. At times, NORTHCOM would not coordinate its ISR collection planning with AFNORTH, whom NORTHCOM had tasked to build the operational ISR collection plan.<sup>30</sup> NORTHCOM's failure to coordinate led the ISR mission planners to build multiple and duplicative mission plans which delayed the launch of ISR operations.<sup>31</sup> For the state and federal efforts, no single clearinghouse existed to validate state tasking, thus requiring the states to request imagery through DHS and NORTHCOM to ensure they would receive their information.<sup>32</sup> These actions created duplicative tasking because DHS would then turn around and submit the same state requests to NORTHCOM. The ISR planners would perceive these DHS requests as new requests rather than the same ones they received directly from the states. The ISR planners would then task another ISR asset to image the location even though NORTHCOM had collected the same image previously.

Next, the lack of communications and a clear chain of command created a situational awareness gap.<sup>33</sup> State and federal organizations did not have interoperable communications

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<sup>29</sup> U.S. Northern Command, "USNORTHCOM and National Guard Roles and Missions in Hurricane Relief," *Lessons Learned Database*, JULL #14979-76175 (4 November 2005), <https://lessons.noradnorthcom.mil> (accessed 28 February 2008).

<sup>30</sup> U.S. Air Force, *Air Force Support to Hurricane Katrina/Rita Relief Operations: Successes and Challenges*, (Washington, DC: Headquarters U.S. Air Force, October 2005), 12.

<sup>31</sup> DC-3 LNO at AFNORTH during Hurricane Katrina, *Trip Report for 26-29 September 2005*.

<sup>32</sup> U.S. Northern Command, "Title 10/NG Duplication," *Lessons Learned Database*, JULL #14315-10856 (4 November 2005), <https://lessons.noradnorthcom.mil> (accessed 28 February 2008).

<sup>33</sup> U.S. Air Force, *Successes and Challenges*, 4.

equipment thus making interagency communication impossible.<sup>34</sup> Also, the lack of a clear chain of command limited NORTHCOM's ability to have clear situational awareness regarding the number and types of ISR assets available for tasking as well as the assets that other organizations tasked; therefore, they were not effectively able to plan ISR operations.<sup>35</sup>

Finally, a degraded, incompatible dissemination infrastructure and legal issues precluded timely information sharing between the decision makers. First, the U.S. military intelligence community works on classified systems with their entire imagery dissemination infrastructure residing at least at the SECRET level. This caused problems with the civilian organizations because they had neither the classified dissemination infrastructure nor the security clearance to view classified information.<sup>36</sup> These organizations lacked a collaborative environment from which to work.<sup>37</sup> NORTHCOM did not standardize imagery dissemination methods. There were a number of different websites, file transfer protocol (FTP) repositories, and other places where ISR exploitation nodes posted imagery. As a result, customers never knew where to find their image, delaying their ability to act.<sup>38</sup> In addition to the dissemination methods, NORTHCOM was reluctant to disseminate any imagery prior to legal review. The J2 wanted to ensure NORTHCOM had not violated any laws; hence, the imagery dissemination backlogged as the JAG reviewed the collection procedures and images.<sup>39</sup>

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<sup>34</sup> Katherine Mayer, Noel Bradford, Christopher Murphy, and Gregory Doubek, "Joint Command, Control, and Communications Issues that Impacted Unity of Effort in Hurricane Katrina Disaster Relief Operations" (research paper, Joint Forces Staff College, Joint and Combined Warfighting School, 2006), 17.

<sup>35</sup> Sovada, personal experience.

<sup>36</sup> U.S. Air Force, *Successes and Challenges*, 5.

<sup>37</sup> U.S. Air Force, *Joint Lessons and Observations*, 3.

<sup>38</sup> Ibid, 3.

<sup>39</sup> U.S. Northern Command, "Use of Intelligence Assets/DoD Assets in Support of Disasters," JULL #14479-76919.

## CALIFORNIA WILDFIRES

Two years following Hurricane Katrina, a state once again called for DoD help. This time the state of California requested ISR support for the wildfires that were jeopardizing lives and property in southern California in October 2007. The state, DoD, and NGB, all played roles in this humanitarian relief effort. ISR support included the Air Force RQ-4 GLOBAL HAWK and U-2, the Air National Guard RC-26 and OH-58, the Air Force Auxiliary (Civil Air Patrol) using various platforms, and the Navy P-3.<sup>40</sup> This time these assets photographed over 22,000 images and recorded hundreds of hours of full motion video.<sup>41</sup> However, the question NORTHCOM asked was whether during the California wildfires was there any improvement in unity of command and unity of effort?

Overall, ISR operations effectiveness improved from Hurricane Katrina to the California wildfires through application of the principle of unity of effort. However, NORTHCOM, due to the plethora of disparate organizations that participated in these operations, was unable to achieve unity of command and realistically can expect never to achieve unity of command in these situations.<sup>42</sup> As Secretary McHale stated in his Senate testimony after Hurricane Katrina, “we start any domestic mission with a breach in that principle of unity of command, [but we should] achieve unity of effort.”<sup>43</sup>

NORTHCOM was able to achieve unity of effort by developing ISR plans prior to the disaster, designating one central point of contact for all airborne ISR tasking, improving communications among agencies, and conducting exercises and training after Katrina and

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<sup>40</sup> Lt Col Sheila Jimenez (AFNORTH ISRD Chief), interview by the author, 25 March 2008.

<sup>41</sup> Jimenez, interview.

<sup>42</sup> Nancy Verde (USNORTHCOM Chief of Production), paper interview by the author, 30 March 2008.

<sup>43</sup> Senate Committee, *Defense Department's role in the response to Hurricane Katrina*, 9 February 2006.

before the wildfires.<sup>44</sup> First, between Hurricane Katrina and the California wildfires, NORTHCOM, AFNORTH, and NGB created Incident Awareness and Assessment concepts of operations (CONOPS) for supporting homeland defense and defense support for civil authorities (DSCA) missions.<sup>45</sup> These documents outline how to support DSCA with ISR operations, who conducts these ISR missions, and how to conduct the operations within NORTHCOM. These CONOPS “were in place to quickly respond to the request from civil authorities ... the result ... was a more comprehensive (and faster) contribution.”<sup>46</sup> The plans are still not perfect but are a big improvement over the absence of a plan prior to Hurricane Katrina.

NORTHCOM also designated AFNORTH to lead all airborne ISR operations. This command relationship allowed one organization to collect requirements and task airborne ISR assets. It reduced duplication of effort and created one consolidated Title 10 operational ISR plan. AFNORTH was able to coordinate with NGB and other agencies regarding their collection requirements to try to eliminate any overlap.<sup>47</sup>

NORTHCOM also improved the unity of effort through encouraging communication among all agencies involved in the ISR humanitarian relief operations. They held daily video teleconferences to discuss ISR planning and operations. These VTCs included organizations from the operational to tactical level and included: NORTHCOM, Air Combat Command (ACC), AFNORTH, 480 Intelligence Wing (IW), 9th Reconnaissance Wing,

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<sup>44</sup> Verde, interview.

<sup>45</sup> U.S. Northern Command, *Incident Awareness and Assessment (IAA) Concept of Operations (CONOPS) for USNORTHCOM's Homeland Defense (HLD) and Defense Support of Civil Authorities (DSCA) Missions (Draft)* (Colorado Springs, CO: N-NC/J23I, 3 October 2006). AFNORTH, *Incident Awareness and Assessment (IAA) Concept of Operations* (Tyndall AFB, FL: 1AF (AFNORTH)/A2, 19 January 2008). National Guard Bureau, *Incident Awareness and Assessment Concept of Operations Information Paper* (Washington, DC: NGB/J2, 31 January 2008).

<sup>46</sup> Russell Wicke, “U-2 Flies Post-Fire Mission for Damage Assessment in California,” *US Fed News Service* (2 November 2007), <http://www.proquest.com> (accessed 24 February 2008).

<sup>47</sup> Jimenez, interview.

NGB, and others.<sup>48</sup> Communication also increased among the state and federal forces by placing NORTHCOM, 480 IW, Army Northern (ARNORTH), and other liaison officers (LNOs) in the California emergency operations center (EOC).<sup>49</sup> These LNOs provided valuable information on ISR platform capabilities and helped to translate EOC requirements into terminology the Title 10 ISR planners and operators understood and translated Title 10 terminology into terms the EOC could understand.<sup>50</sup> The LNO presence in the EOC eliminated much frustration and made ISR operations more efficient and effective.<sup>51</sup>

Finally, “[NORTHCOM] learned a lot [from] Katrina on how to prepare for a disaster like that by exercising and training and building a real planning culture among ... interagency participants.”<sup>52</sup> In the two years between Hurricane Katrina and the wildfires, NORTHCOM sponsored at least two Joint Chiefs of Staff-directed National Defense/DSCA exercises per year, called Ardent Sentry.<sup>53</sup> These exercises allowed NORTHCOM, and its subordinate units, to practice their response to different natural disasters such as hurricanes, tornadoes, earthquakes, and others. The exercises and training allowed NORTHCOM to fine-tune its ISR procedures in order to provide better support during a future humanitarian relief operation.<sup>54</sup>

Despite all of the improvements, legal issues and information sharing problems still affected the overall effectiveness of ISR operations. Once again, NORTHCOM and AFNORTH raised the issue of intelligence oversight. As the California wildfires unfolded,

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<sup>48</sup> Wicke, “U-2 Flies Post-Fire Mission for Damage Assessment in California.”

<sup>49</sup> Verde, interview.

<sup>50</sup> Lt Col Rachel McCaffrey (Commander, 9th Intelligence Squadron), interview by author, 19 March 2008.

<sup>51</sup> Jimenez, interview.

<sup>52</sup> American Forces Press, “NORTHCOM Commander Outlines California Wildfire Response, *Defense Link*, 24 October 2007, <http://www.defenselink.mil/news/newsarticle.aspx?id=47908> (accessed 27 February 2008).

<sup>53</sup> Northern Command, “Fact Sheet Exercise Ardent Sentry Northern Edge 07,” [http://www.northcom.mil/News/2007/AS-07\\_fact\\_sheet.pdf](http://www.northcom.mil/News/2007/AS-07_fact_sheet.pdf) (accessed 29 March 2008).

<sup>54</sup> Verde, interview.



NORTHCOM thought they could use an existing agreement called a proper use memorandum (PUM) to allow legal ISR collection over the affected areas; however, after further research, DIA determined the PUM was not legal because it did not specifically discuss wildfires.<sup>55</sup> ACC and NORTHCOM wrote a new PUM that focused not on what the ISR assets could collect but on how NORTHCOM could disseminate the imagery. In essence, NORTHCOM could collect whatever it wanted as long as it restricted access of the imagery to only authorized personnel.<sup>56</sup> It appeared that the PUM solved the initial intelligence oversight problems. However, it created a problem with NORTHCOM being able to disseminate to and share information with the California EOC.<sup>57</sup> The PUM required NORTHCOM to place all the images on a password-protected site and provide the authorized users the password. This was a workable solution for everyone, except, the state government that was unable to access the password-protected site because the .mil domain was incompatible with the state network and state employees did not take the time to acquire usernames and passwords to the site.<sup>58</sup> Once again, incompatible systems hampered timely information sharing and imagery dissemination.

Another issue that affected timely dissemination was the required legal review. Many of the legal officers at AFNORTH did not understand the constraints and restraints of intelligence oversight and they interpreted the requirements more strictly than in the past. The legal officers mandated that they review every image prior to its dissemination to ensure AFNORTH and NORTHCOM would not violate any intelligence oversight laws.<sup>59</sup> This

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<sup>55</sup> Jimenez, interview.

<sup>56</sup> Ibid.

<sup>57</sup> McCaffrey, interview.

<sup>58</sup> Jimenez, interview.

<sup>59</sup> Ibid, Verde, interview.

review added a “man in the loop” where previously the entire process was automated causing extensive delays in posting and disseminating imagery.<sup>60</sup>

## LESSONS LEARNED

Unity of effort is critical during ISR support to humanitarian relief operations within the United States because as JP 2-0 states: “unity of effort optimizes intelligence operations by reducing unnecessary redundancy and duplication in intelligence collection and production.”<sup>61</sup> Hurricane Katrina taught the United States the “value of early and unified engagement”<sup>62</sup> while Hurricane Katrina and the California wildfires proved to homeland defense officials that the nation has a “need to accurately and rapidly assess damage following a catastrophic event.”<sup>63</sup> To accomplish these goals and improve ISR operational effectiveness, organizations that provide ISR need to apply the following lessons learned.

First, an integrated, pre-established, on-the-shelf ISR plan needs to exist. As evidenced by Hurricane Katrina, the lack of an on-the-shelf ISR plan hampered ISR operations. Without a plan, no one understood the command relationships, information flow, timelines, content of what they should provide, formats for imagery, or support priorities. Once NORTHCOM and its subordinate units developed their plans, ISR support for the California wildfires improved exponentially. An ISR plan is the backbone of any ISR operation.

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<sup>60</sup> Jimenez, interview.

<sup>61</sup> JP 2-0, *Joint Intelligence*, II-4 – II-5.

<sup>62</sup> U.S. Department of Homeland Security’s Federal management Agency, “FEMA Director Paulison Editorial on Lessons Learned from Katrina,” *US Fed News Service* (27 August 2006), <http://www.proquest.com> (accessed 24 February 2008).

<sup>63</sup> Geoff Fein, “Katrina Showed Need for Rapid Damage Assessment, Improved Communications,” *C4I News* (3 August 2006), 1, <http://www.proquest.com> (accessed 24 February 2008).

The second lesson learned from Hurricane Katrina and the California wildfires is that the lead ISR organization needs to have established command relationships in place. During Hurricane Katrina, operators lacked an understanding of the command structure. Prior to the next disaster, NORTHCOM established AFNORTH as the organization that would lead all airborne ISR collection efforts. This command relationship made ISR operations more efficient and defined the chain of command. This ISR operational design allows the J2 to decentralize much of its operational control to allow for a more streamlined process.<sup>64</sup>

The need for interoperable communications among the involved organizations is the next lesson one can draw from evaluating these two humanitarian relief operations. The inability to share information, communicate, and disseminate information between interagency, federal, and state organizations in both operations was one of the areas that caused the greatest problems. If an ISR organization cannot provide the information to the people who need it, then the information is useless. The communication system that the ISR agencies need to develop must be able to “exchange voice, data, and video with each other on demand, in real time, as necessary.”<sup>65</sup> This exchange must be possible between “first responders, state emergency management personnel, National Guard, and active duty U.S. military forces.”<sup>66</sup> To achieve interoperable communications and improve the combined response, the federal government must work with the states and within their organizations to close the technology and capabilities gap.<sup>67</sup>

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<sup>64</sup> U.S. Air Force, *Theater ISR CONOPS* (Washington, DC: Headquarter U.S. Air Force, 4 January 2008), 13.

<sup>65</sup> Senate, *Post Katrina Emergency Management Reform Act of 2006*, 2006, S Doc. 3721, <http://www.proquest.com> (accessed 24 February 2008).

<sup>66</sup> Fein, “Katrina Showed Need for Rapid Damage Assessment, Improved Communications.”

<sup>67</sup> DHS, “FEMA Director Paulison Editorial on Lessons Learned from Katrina.”

Subsequently, establishing “an aggressive [LNO] effort is critical to developing and maintaining unity of effort from initial planning through the execution of operations.”<sup>68</sup> ISR leaders need to establish LNOs at all levels of operations to include COCOM, NGB, component commands, and states. During Hurricane Katrina, NORTHCOM/J2 did not deploy any LNOs to the state EOCs. The lack of ISR expertise at these locations hindered the effective employment of ISR because the EOC personnel did not know what to ask for or how to ask for it. For the wildfires, several organizations deployed LNOs to the state EOC, improving overall communication and allowing for better requirement determination. LNOs are “instrumental in bridging gaps and working through barriers that may come up between organizations.”<sup>69</sup>

Reviewing legal restrictions and modifying them if necessary is the next lesson that one must examine to try to improve ISR support. The current roles, missions, and authorities limit what the DoD can do in response to a catastrophic event within the United States. As seen in both Hurricane Katrina and the wildfires, intelligence oversight and *posse comitatus* limited what Title 10 forces could do and how quickly they could act when supporting relief efforts. If the DoD is to be “first responders ... [the government has] to change ... the legal authorities of the Department of Defense.”<sup>70</sup> If the government does not change the current laws, then those in charge need to establish baseline, standing authorities for ISR support with the use of PUMs and legal reviews that outline what ISR can do to support relief operations within the confines of the law.

Finally, ISR operators need to conduct frequent and challenging exercises which allow the lead command and its subordinate units to practice their procedures. Prior to

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<sup>68</sup> JP 2-0, *Joint Intelligence*, V-4.

<sup>69</sup> Ibid, V-4.

<sup>70</sup> Senate Committee, *Defense Department's role in the response to Hurricane Katrina*, 9 February 2006.

Hurricane Katrina, NORTHCOM did not have any exercises which exercised their processes and procedures regarding homeland natural disasters. Post Hurricane Katrina, NORTHCOM and its subordinate units exercised regularly. The ability to conduct these exercises allowed NORTHCOM to more effectively lead ISR operations during the wildfires. Exercises allow all involved parties to practice communication protocols, processes, and procedures which are all keys to achieving effective unity of effort during ISR operations.

## CONCLUSION

ISR support is a key element to humanitarian relief operations within the United States. It affords first responders to act quickly and efficiently and allows planners to assess how to begin recovery and rebuilding efforts. Unity of effort is essential for effective interagency ISR support because it reduces unnecessary redundancy and duplication of effort. The ISR leaders must be “capable of coordinating the actions of people, organizations, and resources at great distances among diverse participants such as ... governmental agencies ... and state and local authorities.”<sup>71</sup> The way to achieve this coordination during ISR operations is through ISR planning, clearly established command relationships, improved information sharing through interoperable communications, a robust LNO network, proper legal authorities for intelligence operations, and exercising those procedures prior to any disaster. If intelligence organizations can achieve these, then they can ensure effective ISR support to humanitarian relief operations by getting their products to those who need them in a timely manner.

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<sup>71</sup> JP 2-0, *Joint Intelligence*, xviii.

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